Mathematics Toolkit: Grade 3 Objective 3.C.1.a

Standard 3.0 Knowledge of Measurement

Topic C. Applications in Measurement

Indicator 1. Apply measurement concepts

Objective a. Estimate and determine the perimeter of geometric figures and pictures on a grid

Assessment Limits:

Use counting and whole numbers (0 – 50)

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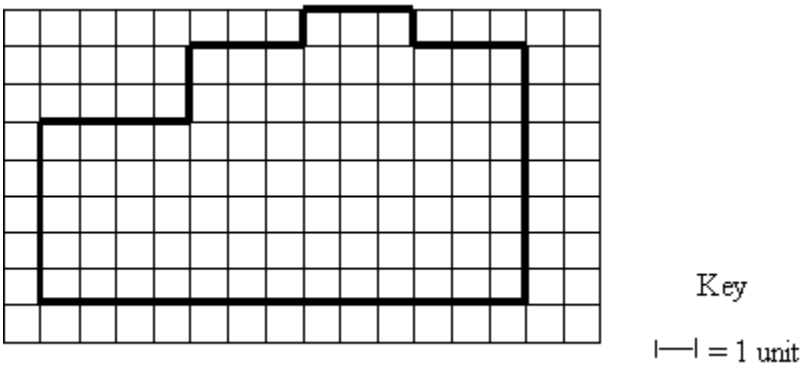
Sample Item #1 - Selected Response (SR) Item

Mathematics Grade 3 Objective 3.C.1.a

Marcus is building a stage for the school play. The stage is shown below.



What is the perimeter, in units, of the stage?

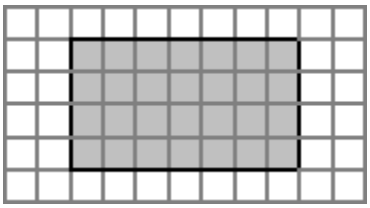
A. 21 units
B. 42 units
C. 43 units
D. 86 units

Correct Answer:
B

Sample Item #2 - Selected Response (SR) Item

Mathematics Grade 3 Objective 3.C.1.a

Look at the shaded figure below.



What is the perimeter of the shaded rectangle?

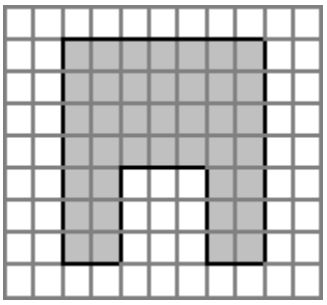
A. 12 units
B. 18 units
C. 22 units
D. 28 units

Correct Answer:
C

Sample Item #3 - Selected Response (SR) Item

Mathematics Grade 3 Objective 3.C.1.a

Look at the shaded figure below.



What is the perimeter of the figure?

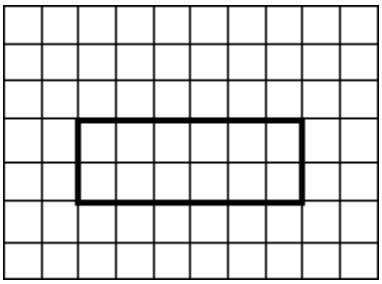
A. 20 units
B. 28 units
C. 32 units
D. 34 units

Correct Answer:
D

Sample Item #4 - Brief Constructed Response (BCR) Item

Mathematics Grade 3 Objective 3.C.1.a

Amber is putting a fence around her flower garden. Amber's garden is shown on the grid below.



Step A

What is the perimeter of Amber's flower garden?

Step B

Explain why your answer is correct.
Use what you know about perimeter in your explanation.
Use words and/or numbers in your explanation.

Correct Answer:
Step A
16 units

Answer Annotation

Sample correct response: I counted the sides of the squares around the rectangle and I got 16.

Rubric - Brief Constructed Response (BCR)

Score 2
The response demonstrates a complete understanding and analysis of a problem.

- Application of a reasonable strategy in the context of the problem is indicated.
- Explanation[1] of and/or justification[2] for the mathematical process(es) used to solve a problem is clear, developed, and logical.
- Connections and/or extensions made within mathematics or outside of mathematics are clear.
- Supportive information and/or numbers are provided as appropriate. [3]

Score 1
The response demonstrates a minimal understanding and analysis of a problem.

- Partial application of a strategy in the context of the problem is indicated.
- Explanation[1] of and/or justification[2] for the mathematical process(es) used to solve a problem is partially developed, logically flawed, or missing.
- Connections and/or extensions made within mathematics or outside of mathematics are partial or overly general, or flawed.
- Supportive information and/or numbers may or may not be provided as appropriate.[3]

Score 0
The response is completely incorrect, irrelevant to the problem, or missing.[4]

Notes:

[1] Explanation refers to students' ability to communicate how they arrived at the solution for an item using the language of mathematics.

[2] Justification refers to students' ability to support the reasoning used to solve a problem, or to demonstrate why the solution is correct using mathematical concepts and principles.

[3] Students need to complete rubric criteria for *explanation, justification, connections* and/or *extensions* as cued for in a given problem.

[4] Merely an exact copy or paraphrase of the problem will receive a score of "0".

Rubric Document Date: August 2003